Advances in Food Science and Technology Vol. 2 (4), pp. 199-203, April, 2014. Available online at www.internationalscholarsjournals.org © International Scholars Journals

Review

The rising issues and trends of Global Food

Preshy Morrison, Kaweche Okharua and Amoateng Maxwell

Department of Business Administration, Faculty of Business Grahams town, Eastern Cape, South Africa, Cape Town,South Africa.

Accepted 30 March, 2014

Global food scenario has been under heavy odds. This has been due to spiraling food prices and scarcity of food grains world over. The result is that the specter of a hungry world that stood at 800 million, roiled into unrest and political upheavals. One of the contributory factors is more population and lesser output of food grains. It is also assumed that that the Asian Economies and the US have also contributed towards global food crisis. A lot of efforts have been made out both at international level and national levels. However there is improvement in trends and situation and it is hoped that the worst may be over. The need, therefore, is to take more effective measures to tackle this alarming and burning issue that the world is facing. The present paper reviews emerging issues and trends in respect of global food situation and crisis.

Key words: Food prices, food crisis, food situation, insecurity, stability, disparities, hunger, poverty.

INTRODUCTION

The year 2007 is considered to be the worst ever year for global food crisis and prices in recent past. In this year, increasing food grain prices and shortage of food grains supply world over have resurrected the specter of a hungry world, roiled with riots and political insecurity and stability. One of the most relevant concepts has been given by Thomas Robert Malthus two centuries ago in regard to causes of food crisis. According to this concept 'population would grow till it outstrips food production, and then famines, wars and epidemics would intervene to restore the balance' (Varma, 2008).This is what is happening today.

Trends in population and food grains output

In the year 1950-51, the global population was nearly 2.5 billion and from then there has been a gradual increase (Table 1). At the end of 20th century the global population had touched a figure of 6.0 billion marks which means a phenomenal rise of about 3.5 billion in just half a century. In the words of UN Population Division, the global population would be between 8 billion and 11 billion by the end of 2050 (United Nations Population Division, 2007- 2008). This means there will be an addition of 3 billion people to this earth. The result is that it would be a very difficult for the Governrnents all over the world to feed every one on the earth.

*Corresponding author. E-mail- Morrison874@yahoo.com

On the other side, total global output production of food grains have witnessed an overall rise of more than 3 times. In 1950 - 1951 it was just 631 million tons and by the year 2007 - 2008 it has touched a figure of 2075 million tones. This means between 1950 - 1951 and 2007 - 2008 the global population has recorded a rise of more than double, whereas global output of food grains has registered an increase of more than 3.3 times. During this period, the per capita consumption of food grains has witnessed a rise of just 1.2 times (Chart 1). Likewise, there is also an increase in whole range of food required by a human beings namely-meat, dairy products, fruits, vegetables, sugar, etc.

When the rise in global output of food grains is higher than the global increase in population, the question does arise why there is global food crisis and why so many people are still hungry having even no meal? According to UN population division, there are still 800 million hungry people world wide. The simple answer is that the food is not equally available to all in this world.

If we examine emerging trends in global food scenario in terms of continents, the total world production of cereals in 2006 - 2007 was 2012 million tons and this figure went up to a level of 2108 million tons in 2007-08 that means an increase of 4.7%. The total output of cereals in developed economies has witnessed a rise of 8.0% that is, from a level of 856 million tons to 925 million tons. The total production of cereals in developing countries recorded a rise of 2.3% that is, from a level of 1157 million tons to 1183 million tons. When we compare rise of these three segments, it is clear that the rise is higher in case of

Table 1. Global Population and Food Grains Output in selected years.

Year	Population (Billion)	Output (Million T)	Per capita availability (kg)
1950 - 1951	2.5	631	248
1960 - 1961	3.1	824	272
1970 - 1971	3.8	1079	286
1980 - 1981	4.5	1429	321
1990 - 1991	5.3	1768	334
2000 - 1901	6.1	1843	301
2007 - 1908	6.6	2075	314

Source: UN Population Division and FAO Statistics.2009.

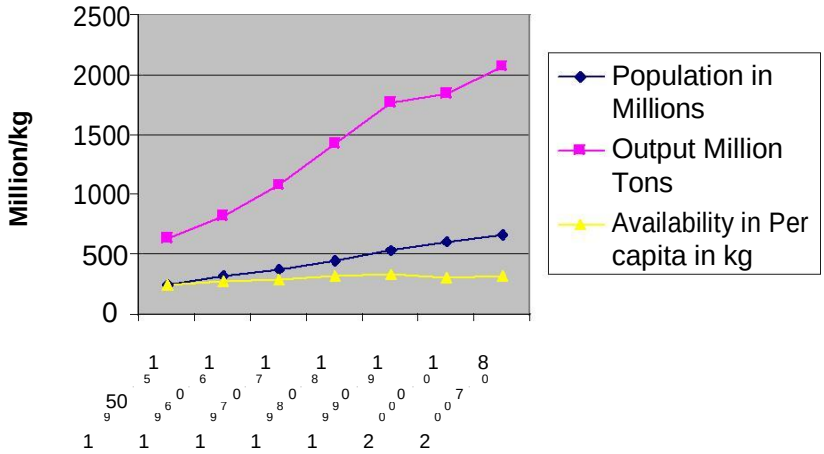

Chart 1. Global Population and Food Grains Output 1950 - 1951 to 2007 - 2008.
Source: Prepared by the author from the data given in Table 1.

developed economies. This means developed nations have performed better than developing economies. The estimates of cereal production for 2008 - 2009 in terms of global production, output in developed economies and production in developing economies stood at 2164 million tons, 966 million tons and 1199 million tons respectively. The estimated rise is 2.6, 4.4 and 1.3% respectively (Chart 2).

Issue of great concern

There is that in years to come, the output of food grains would not be able to sustain the ever rising population. This is a fact from fore goings and really does require a serious thinking and the need of exploring the options to deal with it. The question does arise on how much the earth could yield? There is much truth to this fact/question. There is a limit to cultivate land and that presently accounts for 11% of the total land of the earth that is, 13.2 billion hectares as the remaining of the land is shared by forests, settlements, grasslands. Similarly, there is also a limit to water for agriculture development world over.

What is most important is to estimate the need of the population in respect of food grains. This is because there has been alarming disparities in terms of consumption of cereals worldwide. An American consumes around 1046 kg which is highest in the world, whereas global per capita availability of food grains during 2007 - 2008 is just 314 kg. This indicates that global per capita availability is more than 3 times less than the per capita availability of food grains in the US. If this is a requirement, then the total need of the global output of food grains would be around 7 billion tons, which means three and half times of the existing output. The result would be that the planet would become a wasteland by the ends of 2050 (Varma, 2008).

The north vs south syndrome

This another vital and strategic issue as there are disparities in terms of acreage under cultivation of food grains and the output of food grains (Chart 3). In the vast continent of Africa, the total land under cultivation of food grains is 99 million hectares and the same produced 146 million tons of food grains. In the other continent (North) consisting of USA and Canada, the total acreage is 71 million hectares and the production stood at 398 million tons. This indicates that the North Continent is producing 252 million tons more than African continent despite the fact that acreage is 18 million less than acreage under

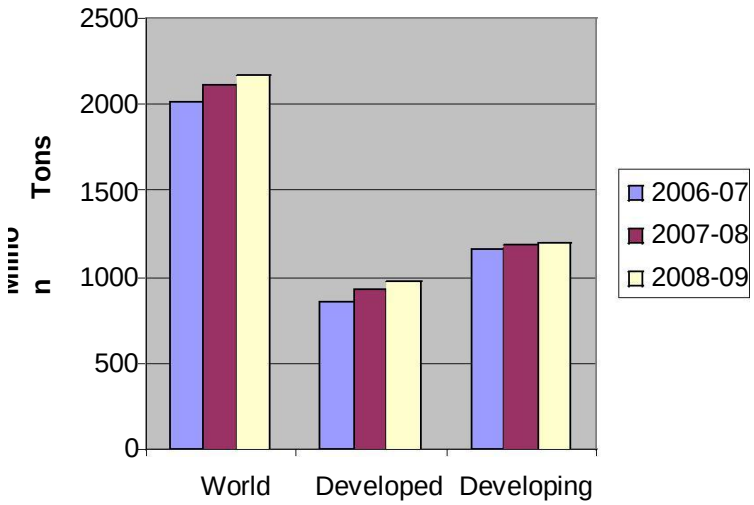

Chart 2. World Cereal Output 2006 – 2009.
Source: Prepared by the author from data FAO, Rome and Italy.

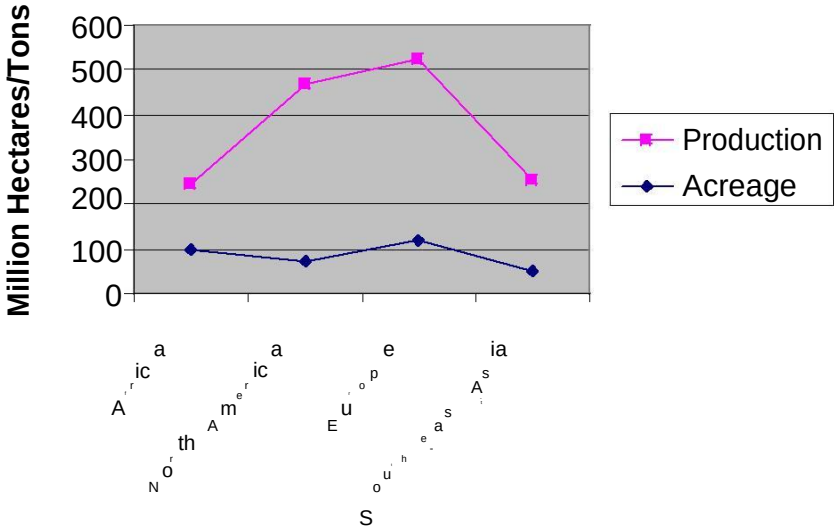

Chart 3. Land under food grains and production of food grains in terms of continents in 2007.
Source: Prepared by the author from FAO, Statistics; Rome, Italy; 2007.

cultivation in African continent. This calls for an immediate policy of tapping the vast potential that African continent does have for producing more and contribute significantly to the global supply of food grains.

Similar trends are in existence in other continents of the world (Chart 3). Such alarming disparities could be meaningfully measured in terms of yield per hectares (Table 2). For instance, every hectare of land in China produces 6265 kg of rice and 4455 kg of wheat, where as the United States has a figure of 7694 kg rice and 2825 kg wheat respectively. There is a clear division between developed nations and developing nations in terms of yield of major components of food grains namely-rice and wheat. According to FAO, cereal yield per hectare is nearly 4 tons in the developing nations and it is more than 6 tons in case of developed economies.

It is also true that alarming disparities are not confined to cereals, but are also there is the case of other crops world over. For example, vegetable output per hectare is more than 10 tons in Africa and 9.6 tons in South-east Asia. But in case of North America, it is around 26 tons and in Europe it is about 21 tons. These noticeable disparities are because of the availability of inputs and other need resources. In developed economies, more and better resources are available to farmers. If same types of resources are made available in other parts of the world, then there is no reason why these countries would not produce more crops and yields would be at par with the developed economies. Hence, it is the issue of availability of inputs and other resources that may bring higher pro-

Table 2. Trends in Yield of Cereals-Kg per Hectare in Major producing Nations in 2007.

Country	Yield of Rice	Yield of Wheat
US	7,694	2,825
China	6,265	4,455
India	3,124	2,619
Nigeria	1,440	1,127

Source: As in table I.

Table 3. Global Cereal Scenario (continent-wise) for 2006-2009 (Million Tons).

Continent	2006 - 2007	2007 - 2008	2008 - 2009	% change
Asia	913.2	930.1	931.5	0.1
Africa	144.4	143.4	146.6	8.3
Central America	37.4	40.1	41.5	3.6
South America	110.7	130.5	131.5	0.7
North America	384.5	462.1	435.5	-5.8
Europe	404.6	388.7	438.1	12.7
Oceania	19.8	22.9	40.8	77.8
World	2012.9	2108.5	2164.0	2.6

Source: FAO; Global Cereal Supply and Demand Brief; Rome, Italy.

ductivity and may result into higher production for meeting the demand for food of their respective people.

The worst may be over

The worst may be over for spiraling food prices world wide. The reason is the arrival of a bumper crop in most of the food grains exporting economies. In the current year that is, 2008 - 2009, the global cereal output is likely to register a rise of 2.6% to a record level of output of 2165 million tons (Table 3). Wheat production may touch a new record and rice output looks all set to increase marginally at a critical juncture when global cereal reserves stand depleted to a record low in the last 25 years. Here another question does come up that 'should the expected growth in 2008 - 2009 output materialize, the present tight world's cereal supply situation could ease out in the season of 2008-09' (Food Situation Report, 2007). The major chunk of the increased output is estimated to be in wheat because of the expansion of sowing in major grain producing economies. The heart-warming fact is that the wheat production is likely to touch a new record level of 647 million tons in 2008 - 2009, and increase of nearly 7% over the figure of 2007 - 2008. Governments of some Asian economies have extended incentive for the cultivation of rice and accordingly the rice output is also foreseen to rise marginally by nearly 2%.

The most noteworthy trend and situation is that the climatic conditions in major producing economies so far are favorable, but the final outcome will depend upon how the weather behaves in the rest of the year 2008 - 2009. The Global apex body Food and Agricultural Organization (FAO) is having a sort of upbeat in regard to cereal output with a world of caution on prices horizon. The nearby wheat futures (May, 2008) are already down by a margin of US $ 50 per ton since last February, but still more than 130% over the corresponding period last year that is, 2007. The FAO blames the current high prices on supply tightness, export restrictions, strong demand for imports and a weak US dollar. This could mean that a bumper crop may arrest the northward march of prices but may not bring about a crash in the near future.

Table 3 reveals some of the alarming trends to be looked at by FAO and other global agencies for analyzing and taking policy measures to overcome the trends.

1.) There are noticeable disparities in terms of increase in the global cereal output ranging between -5.8% to nearly 78% in the figures of 2008 - 2009 over the figures of 2007 - 2008.
2.) The lowest change has been recorded in case of Asian continent.
3.) The highest change has been recorded in case of Oceania.
4.) The negative change has been registered in case of North America.

A look at the end of March 2007 showed that the prices of staple- cereal like wheat and rice in 2008 were twice as high and maize nearly a third higher, raising severe concerns in Low Income Food Deficit (LIFD) economies in Asia, Africa and Latin America. Many economies including traditional exporters of food grains have imposed restrictions on exports leading to create panic and price rise further.

The Low Income Food Deficit Countries (LIFDC) have their own cereal output and the same is likely to rise only marginally, but early prospects in bigger economies namely- India and China point to a slight drop in output. Most of these economies would again end up importing food grains. The import bill of LIFDC during 2007-08 as a group is estimated to rise considerably for the second consecutively year (Global Food Scenario, 2008). In the year 2006 - 2007, food prices went up by 37%, followed by a 56% increase during 2007 - 2008.

The global cereal stocks, expected to fall to a level of 405 million tons, went down by a margin of 5% from already reduced levels. According to FAO projections, the global stocks of cereal have fallen even in major exporting economies. As a result, Australia, Canada and the European Union (EU)-3 of the 5 major exporting nations, have less exportable surplus in 2007 – 2008 (Food Situation Report, 2007). The global trade in wheat is also forecast to decline (Global Food Scenario, 2008).

Asia and global food crisis

Asia's response to tightening global grain supplies has aggravated the global food price inflation and uncertainty (Asia's Export Tightening, 2008). Export bans and price floors imposed by grain exporters including China, Pakistan, Vietnam and India have raised price volatility and uncertainty in the global food market in general and global rice market in particular, resulting into lesser supplies. These trends and situation have been contributing significantly to the surge in price especially since the end of 2007 (Asian Development Bank, 2007).

Among the importers, precautionary demand for food stock in many economies is contributing to food grain price rise. Sustained procurements in global markets have been made by Bangladesh and the Philippines. The soaring food prices are the out come of the same. Strong political and economic factors were at play in the food policies of developing Asian economies, so that the effect of sharply increase in global prices have not been fully transmitted to domestic prices (Haruhiko, 2008).

The required crackdown by Dhaka and Manila on private traders accused of hoarding food grains were difficult to implement and have in fact increased prices in the domestic market of many economies. Lack of efficient logistics systems and infrastructure for food grain marketing and distribution has tightened the market
Further in Afghanistan, Bangladesh, Nepal, the Philippines, and Tajikistan.

The Asian development bank (ADB) has recently pointed out that it would provide US $ 500

Million for immediate assistance to member nations hit hardest by soaring food prices. The Asian Economies should correct distortions arising from interventionist price and trade policies. According to ADB, soaring food prices could affect a billion people in Asia, home to two-thirds of the global poor and where spending on food accounts for 60 per cent total average expenditure. The food problem could cut into decades of economic gains in the Asia-Pacific region.

US and global food crisis

A biofuels backlash has erupted in major ethanol producer the United States, as lawmakers and experts debate the merits of converting food to fuel to support US's age old preference with the automobiles. With gasoline at record prices in US petrol, and soaring corn, rice and wheat costs sparking a global food crisis, many policy makers have questioned the wisdom of the President of United States calling for higher US crops, like corn to fuel production. Why are we putting food in our gas tanks instead of our stomachs? (Richard, 2008).

Biofuels are derived from food stuffs namely- corn, soybeans and sugarcane, and plants like switch grass and their cellulosic waste. Touted just months ago as an answer to spiking gas prices, bio- fuels are enduring closer scrutiny by the US lawmakers alarmed by high cost of food staples and how they are sapping millions of US households. Members of the President own or Democratic Party is turning on him who called on Congress to undo 'US ethanol mistake'.

In recent weeks, the correlation between Government bio-fuels mandates and rapidly increasing food prices has become undeniable. At a time when the US economy is facing recession, Congress needs to reform its food-to-fuel policies and look at alternatives to strengthen energy security.

In US, bio-fuels are refined to produce fuel similar to those made from petroleum, but their growing use has been cited along with poor harvest because of drought, surging demand in Asia as living standards have risen, higher transport costs and trade restrictions for the rapid increase in food prices. A moratorium on bio-fuels from food grains in 2008 would lower corn prices by 20% and wheat prices by 10% in 2009 and 2010 (Joachim von Braun, 2008).

What should be abandoned is the use of our current food supplies to turn them into ethanol, especially in the US and the existing programme of food-to-fuel is a lousy bargain. In December 2007, the President of United States of America has signed the Energy Independence and Security Act that calls for a six fold rise in the use of ethanol, to 36 billion gallons or 136 billion liters per annum by 2022 (Renowned US Economist, Jeffrey, 2008). The US is the largest producer of corn-based ethanol in the world and the Government of US considers it as a key way to reduce dependence on foreign oil and curb fossil fuel emissions, the main source of man made global warming.

Strategy for meeting food challenges

In order to resolve the food crisis on sustainable basis on

the one hand and on the other hand to whip out poverty from the globe especially from the developing countries in general and LIFDC in particular, a monumental shift from the existing path of development has become inevitable and the need of the hour. What is immediately required is to redesign and reschedule the preferences on both national and internal levels. The followings are the guide posts of the strategy:

a. To make needed investment in irrigation.
b. To adopt soil testing at a regular basis.
c. The developing economies in general and LIFDC in particular must policy on land reforms and follow the rule of law in case of ceiling laws.
d. Redistribution of land holdings in LIFDC.
e. Make marketing system more effective in developing and LIFDC economies.
f. Improve rural credit access to the farmers in major producing developing economies.

Prospects

The expectation that major producing nations of wheat and rice might lift ban on exports of wheat and rice, the crop prospects, look bright in the United States and Australia. In the developing nations namely India, Thailand and Vietnam, there is better wheat and rice outlook and therefore, it is expected that the crisis would be eased out. The fact remains that the future looks uncertain if economies continue to neglect agriculture as has been the case for decades.

REFERENCES

Asia's Export Tightening (2008). The Times Business; New Delhi; May 19.
Asian Development Bank (2007). Manila Report.
Food Situation Report 2007; FAO; Rome; Italy
Global Food Scenario (2008). The Hindustan Times; New Delhi; April 16.
Haruhiko K (2008). The President of Asian Development Bank; Manila.
Jeffrey S (2008). Renowned US Economist,.
Joachim von B (2008). Head; US International Food Policy Research Institute; Washington
Price rise (2008). Worst may be over; Op cit.
Richard R (2008). Owner of Reinwald Bakery, Huntington, New York.
United Nations Population Division (2007-2008). New York.
Varma S (2008). Running out of food. The Sunday Times, New Delhi, May 11.
Varma S. Running out of Food; Opcit.